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THE OBJECT OF ASSOCIATION.

Home-Talk, by J. H. N., 1858.

[The following talk was given in 1853 when the Fourierite excitement of 1843 had not entirely died away and the Associations here referred to are some of those experiments which still lingered.]

ASSOCIATION with us, is not an *end* but a *means*. The end that we are after, is to *make good men*; or rather to offer men a sacrifice to Christ, that they may be made "meet to be partakers of the inheritance of the saints in light." Our object is to become new creatures; to go to school to Christ; and to attain the "faith once delivered to the saints," that we may live with God forever. If any other process than Association would help us better to attain this object, we should certainly adopt it. We value Association only as it helps us to this ulterior, spiritual end; and it is evident that we might be entirely successful in our main project, and yet have indifferent success in Association.

We are followers of the Primitive Church; and that church was independent of Association. There was a largeness of heart, and breadth of purpose and faith, in Paul and the primitive believers, that made them very easy about their external arrangements. On the day of Pentecost they naturally resolved themselves into a Community, and fell into associate arrangements: but the first organization at Jerusalem, was ultimately broken up, and the members dispersed. The Association movement, which started on the day of Pentecost, in one sense failed. Yet the purpose of Christ did not fail, but was furthered by the dispersion of the church. Their temporary organization was good and necessary as a means of edification; but Christ did not suffer it to go far enough to become an end, and to admit of their being settled and crystallized in that shape. There was, doubtless, through the whole church, in its subsequent course, a tendency to Communism—to gather

themselves together and associate as far as possible; and they had gatherings of those who were free from the world—spiritual arsenals scattered about among the churches: but after all, believers were free to accommodate themselves to society as it was, and live separate and retain their connection with their families. They were explicitly directed not to tear themselves away, in a violent manner, from any of the relations of life. The married were to remain with their partners, and servants with their masters. They were taught to "care not" for external circumstances. The great end which they had in view, was, to *save their souls*: and they could afford to be "of all men most miserable," in the present world, if that end was gained. They submitted to their external circumstances, confidently trusting in God, and waiting on his providence; not shaping out a course for themselves that would best suit the flesh; but leaving it with him to shape out a course for them, that would best serve their faith. If they were growing in faith and the knowledge of God, it was all they asked of their circumstances. We are followers of that church. We have the same Christ, and, being Gentiles, the same Paul is our apostle. They have as large hearts now as formerly, and would be glad to be received in this world, by as large hearts as their own.

There is, then, really no comparison between us and other Associations, that have principally in view a more comfortable method of life in this world; and we need not be tempted to try to make a "fair show in the flesh," in the midst of them. We are not on the same route. They are running up the river to Albany—we are bound across the ocean. The sea-steamer does not calculate to run quite so fast as the river-steamer, and do not desire to. Other Associations are making inland or coasting voyages; but we have put out into the great ocean, bound for the Kingdom of Heaven and eternal life: and it would be folly for us as they come alongside, to try to race with them. Instead of regarding them as rivals, we should consider that they are really working in favor of our great end. So far as the Association principle is at work in the country, it leavens the public mind with an influence favorable to the Kingdom of God. People who have had their old ideas of society broken up by modern Communism, are in a position to see and lay hold of the radicalism of the cross; so that we have every reason to feel friendly and favorable to all that is going in this line.

It is one of the strongest tendencies and temptations of the flesh, to lose sight of the end in the means. The whole apostacy of the churches consists in their falling away from the interior, spiritual objects of the gospel, and settling into an attachment to forms and institutions. Spiritual life is neglected and overloaded, and sunk, in attention to the institutions that surround it, and that were originally formed for the sake of it. Take up any religious newspaper and scan its contents, and see how great a proportion of the matter is looking toward eternal life—how much is designed for the education of the church in faith, and to propel it forward in true Christian experience. Then see how much relates to the organization of churches, the settling of ministers, missionary operations, &c., and say if the institutional part of religion has not swallowed up the interior life.

I trust that Christ has planted truth in us that will eternally prevent us from following such examples, and settling down into an institutional state. The purpose of Paul will save us from such a result. With his purpose in our hearts, to "count all things but loss for the excellency of the knowledge of Christ," it is impossible for us to become institutional characters. If there are any among us who have not lifted their souls to the great God, but are resting in Association-comforts, they will have to be converted. If they hold on to the truth that they already have, and remain with God, he will certainly show them his object, as he did Paul; and they will never have rest until they get hold of his object; because he will not be diverted and wiled away from it—we cannot make an institutional God of him. He laid his plan before he made the world, and he is very persevering and never forgets what he is about. If we deal with him, he will continually worry us, and disappoint us, and break up our schemes, until we lay hold of the object which Paul had in view—fellowship with the resurrection of Christ. What we need, more than we need subscribers to our paper, or numbers in the Association, or money, or external means of any kind, is an earnest, unanimous pursuit of the object that Paul and the Primitive Church were seeking—i. e., *resurrection experience*. We want above all things, enlargement of faith in that direction. If we think of competition or rivalry with any thing that is going in the world, let it be with Spiritualists, who are seeking acquaintance with the invisible world. Let us make up our minds not to fall behind them in the pursuit

of free communication with spiritual spheres. Let us believe that we can become living members of the church that has passed the Second Coming—the resurrection church; that we are invited into heaven itself.

We might have all the men, and means, and buildings, and external circumstances, for a prosperous Association, that could be asked, and yet we should have only the tools, without the workmen, if we had not men of God to take the lead—men of spiritual gifts, and charity. It will not do at all, to imagine that Association will provide for every thing in itself. The Association does not make the church, but the church makes the Association; and good men are antecedents of Association. We must have men of God—men and women of faith and spiritual power, to *begin with*, prepared beforehand, and prepared independently of Association, who are not dependent on Association for their gifts and qualifications, who have had fellowship with Paul's "rough-and-ready" experience, and know how to live *in* Association, or *out* of it.

With these primary principles thoroughly established, so that any secondary interest cannot beguile us from our adherence to them, we prize Association as a very valuable means to the end we have in view. We believe that it comprises in itself, as we have worked it out, all the substance of the means which were employed in the Primitive Church: and it is allowable to suppose that by the advance of mankind since their day, and the greater liberty that now prevails, we should be furnished with better means than they had, and arrangements that are more harmonious and better adapted to the spirit of the gospel.

We would have those who are seeking Association, go about it for the same reason that men who fear God after the old-fashioned way, go about forming a church, or building a meeting-house. Men who have the fear of God, and want religion enough to save their souls at last, and who think it is important to get together—not with reference to any worldly advantage, but with reference to the good of their souls, and the souls of their children—find it best to form a church, and build a meeting-house. We have in view something more than getting salvation at last. We have in view salvation that begins *now*; and our conception of regeneration and the Christian life is very different from that of the churches: we believe that they have little idea of what it was, in the Primitive Church, to be saved. It was not merely to get a hope, and keep it safely, as a ticket of admission to heaven at last: it involved a long conflict with the flesh, and required a victory over principalities and powers. We take our idea of salvation from them. We believe that a man who wants to be saved must bring his business into his religion, and have no business but religion. The churches, with their object in view, can do no better than to build meeting-houses,

and come together once a week. But we, with a vastly greater object in view, one which requires us to make religion our only business, and devote ourselves to it in season and out of season, will come together as a permanent church, and merge the family organization in the church. We will give ourselves up to an everlasting church-meeting. We will put ourselves permanently into the attitude that a church assumes when it takes the liberty, in a slack business-season, to hold a protracted meeting. The churches with their end in view, think it enough if they have a gathering once a week; and a meeting-house serves their purpose. But with our great end in view, it is desirable that we should come together for a permanent church-meeting: and therefore our building must be a unitary establishment for permanent occupation.

The end which the churches have in view, requires just the means they use; and our end requires the means we use. We are simply adapting means to the end, as they do. We want a *continuous* religion; and for that purpose we organize ourselves into continuous churches, and convert our meeting-houses into dwelling houses. Paul says 'Forsake not the assembling of yourselves together:' and with us it is practicable to continue in permanent assembly.

We fully believe that we have been set upon working out the principles of Association, by Christ himself. It is not a thing that we have undertaken in our own strength and wisdom, but it is a work that Christ has set us about; and he will continue to breathe his life into it, and favor and bless it, if we continue to make it serve the true end. We have no doubt that he appreciates Association highly in this secondary way, as a means; but if it rises up into interference with his main enterprise, he will not be deceived by it, but will blast all such competition. He will stick to the object of making spiritual men and women—of regenerating, and preparing us to be presented faultless before the throne of God.

LIME.

THE earth considered as a vast store-house of materials designed to subserve the health and happiness of man, presents so many inviting fields for investigation, that it is impossible to consider any one of the thousands of materials now in use, without finding it a subject full of interest. Take, for instance, so common an article as lime, and who can form an estimate of its value to man, or the part it plays in his affairs at the present stage of his civilization?

The walls of our dwellings are covered with a white substance, possessed of considerable tenacity, adhering firmly to a rough surface, and forming a very cheap and convenient finish for the inside of our houses. This substance, so well known by the popular name of lime, is an oxide of the metal calcium; that is, a product of the combination of oxygen gas with this metal, forming a white powder, used, as is well known, to an enormous extent in the useful arts. The source of the lime of commerce, is the carbonate

known as limestone rock, of which it is estimated one-sixteenth of the earth's crust is composed.

The process of forming lime from this stone, is a very simple one. The rock is thrown into a furnace, and subjected to an intense heat. The chemical union existing between the two elements of which it is composed, viz., oxygen and carbonic acid gas, is broken up. The gas escapes, and the metal calcium, being thus freed from one combination, instantly forms another with oxygen, an element always present during combustion. There is no interval in the process in which the metal is in a free state, for calcium cannot exist a single instant in the presence of oxygen without combining with it; and the oxidizing process is almost identical with the decomposing one. Thus by the agency of fire we convert a stone having some limited use as a building material, into one of the most useful and widely diffused of all the products which the earth yields to man.

The kilns in which lime is made, are large stone structures, conical in form, and the fires once lighted in them, are kept burning for months together. The stone is thrown into the furnace above, and the lime removed at intervals from below. The old process of putting into the furnace, alternate layers of stone and coal, has given place to the better one, of keeping them distinct; thus producing a much superior article.

The deposits of limestone rock in this country producing the best quality of lime, are on the south-western shores of Penobscot Bay in the state of Maine. The product of these quarries is known in commerce as Thomaston lime, from the little shipping port of that name. Thomaston rates are quoted in the papers throughout the Eastern States, and the lime ranks as A, No. 1. A fair article is made at cheaper rates on the west side of the Hudson river, in Ulster County.

A very inferior article is also made, and sold to agriculturists. In the estimation of builders, that quality of lime which takes the greatest quantity of sand to a given amount of mortar, is considered the best. A barrel of Thomaston lime will mix with eight barrels of sand, while most other qualities range below this proportion. Who can estimate the consequences that would ensue if the world were deprived of lime? We might build our houses of iron or wood; but even if we could invent other means of constructing our foundation walls, the locks on our canals, and the abutments and arches on our railroads, it would be long before we could train ourselves to live without lime or to forego the clean white plaster on our walls.

SCIENTIFIC EDUCATION.

[The following extracts from a lecture by Professor Huxley, which, with a reply by Eugene Benson and an editorial supporting Prof. Huxley's position, was published lately in *Appleton's Journal*, was read in our meeting, and elicited some discussion. We give some of Prof. Huxley's remarks this week, and will give extracts from the two other articles, with comments by our own thinkers, next week. With some exceptions we can heartily commend the Professor's position:]

I HOPE you will consider that the arguments I have now stated, even if there were no better ones, constitute a sufficient apology for urging the introduction of science into schools. The next question to which I have to address myself is, What sciences ought to be thus taught? And this is one of the most important of questions, because my side (I am afraid I am a terribly candid friend) sometimes

spoils its cause by going in for too much. There are other forms of culture besides physical science, and I should be profoundly sorry to see the fact forgotten, or even to observe a tendency to starve or cripple literary or æsthetic culture for the sake of science.

Such a narrow view of education has nothing to do with my firm conviction that a complete and thorough scientific culture ought to be introduced into all schools. By this, however, I do not mean that every school-boy should be taught every thing in science. That would be a very absurd thing to conceive, and a very mischievous thing to attempt. What I mean is, that no boy nor girl should leave school without possessing a grasp of the general character of science, and without having been disciplined, more or less, in the methods of all sciences; so that, when turned into the world to make their own way, they shall be prepared to face scientific discussions and scientific problems, not by knowing at once the conditions of every problem, or by being able at once to solve it, but by being familiar with the general current of scientific thought, and being able to apply the methods of science in the proper way, when they have acquainted themselves with the conditions of the special problem.

That is what I understand by scientific education. To furnish a boy with such an education, it is by no means necessary that he should devote his whole school existence to physical science; in fact, no one would lament so one-sided a proceeding more than I. Nay, more, it is not necessary for him give up more than a moderate share of his time to such studies, if they be properly selected and arranged, and if he be trained in them in a fitting manner.

I conceive the proper course to be somewhat as follows: To begin with, let every child be instructed in those general views of the phenomena of nature for which we have no exact English name. The nearest approximation to a name for what I mean, which we possess, is "physical geography." The Germans have a better, *Erdkunde* ("earth-knowledge," or "geology," in its etymological sense), that is to say, a general knowledge of the earth, and what is on it, in it, and about it.

If any one who has had experience of the ways of young children will call to mind their questions, he will find that, so far as they can be put into any scientific category, they come under this head of *Erdkunde*. The child asks, "What is the moon, and why does it shine?" "What is this water, and where does it run?" "What is the wind?" "What makes the waves in the sea?" "Where does this animal live, and what is the use of that plant?" And, if not snubbed and stunted by being told not to ask foolish questions, there is no limit to the intellectual craving of a young child, nor any bound to the slow but solid accretion of knowledge and development of the thinking faculty in this way. To all such questions, answers which are necessarily incomplete, though true as far as they go, may be given by any teacher whose ideas represent real knowledge, and not mere book-learning; and a panoramic view of nature, accompanied by a strong infusion of the scientific habit of mind, may thus be placed within the reach of every child of nine or ten.

After this preliminary opening of the eyes to the great spectacle of the daily progress of nature, as the reasoning faculties of the child grow, and he becomes familiar with the use of the tools of knowledge—reading, writing, and elementary mathematics—he should pass on to what is, in the more strict sense, physical science. Now, there are two kinds of physical science: the one regards form and the relation of forms to one another; the other deals with causes and effects. In many of what we term our sciences, these two kinds are mixed up together; but systematic botany is a pure example of the former kind, and physics of the latter kind of science. Every educational advantage which training in physical science can give is obtainable from the proper study of these two; and I should be contented, for the present, if they, added to our *Erdkunde*, furnished the whole of the scientific curriculum of schools. Indeed, I conceive it would be one of the greatest boons which could be conferred upon England, if henceforward every child in the country were instructed in the general knowledge of the things about it—in the elements of physics and of botany. But I should be still better pleased if there could be added somewhat of chemistry, and an elementary acquaintance with human physiology.

So far as school education is concerned, I want to go no further just now; and I believe that such instruction would make an excellent introduction to that preparatory scientific training which, as I have indicated, is so essential for the successful pursuit of our most important professions. But this modicum of instruction must be so given as to insure real knowledge and practical discipline. If scientific education is to be dealt with as mere book-work, it will be better not to attempt it, but to stick to the Latin grammar, which makes no pretence to be any thing but book-work.

If the great benefits of scientific training are sought, it is essential that such training should be real, that is to say, that the mind of the scholar

should be brought into direct relation with fact; that he should not merely be told a thing, but made to see by the use of his own intellect and ability that the thing is so, and no otherwise. The great peculiarity of scientific training, that in virtue of which it cannot be replaced by any other discipline whatsoever, is this bringing of the mind directly into contact with fact, and practising the intellect in the completest form of induction; that is to say, in drawing conclusions from particular facts made known by immediate observation of nature.

The other studies which enter into ordinary education do not discipline the mind in this way. Mathematical training is almost purely deductive. The mathematician starts with a few simple propositions, the proof of which is so obvious that they are called self-evident, and the rest of his work consists of subtle deductions from them. The teaching of languages, at any rate as ordinarily practised, is of the same general nature—authority and tradition furnish the data, and the mental operations of the scholar are deductive.

Again, if history be the subject of study, the facts are still taken upon the evidence of tradition and authority. You cannot make a boy see the battle of Thermopylæ for himself, or know of his own knowledge that Cromwell once ruled England. There is no getting into direct contact with natural fact by this road; there is no dispensing with authority, but rather a resting upon it.

In all these respects, science differs from other educational discipline, and prepares the scholar for common life. What have we to do in every-day life? Most of the business which demands our attention is matter of fact, which needs, in the first place, to be accurately observed or apprehended; in the second, to be interpreted by inductive and deductive reasonings, which are altogether similar in their nature to those employed in science. In the one case, as in the other, whatever is taken for granted is so taken at one's own peril; fact and reason are the ultimate arbiters, and patience and honesty are the great helpers out of difficulty.

But, if scientific training is to yield its most eminent results, it must, I repeat, be made practical. That is to say, in explaining to a child the general phenomena of nature, you must, as far as possible, give reality to your teaching by object-lessons; in teaching him botany, he must handle the plants and dissect the flowers for himself; in teaching him physics and chemistry, you must not be solicitous to fill him with information, but you must be careful that what he learns he knows of his own knowledge. Don't be satisfied with telling him that a magnet attracts iron. Let him see that it does; let him feel the pull of the one upon the other for himself. And, especially, tell him that it is his duty to doubt until he is compelled, by the absolute authority of nature, to believe that which is written in books. Pursue this discipline carefully and conscientiously, and you may make sure that however scanty may be the measure of information which you have poured into the boy's mind, you have created an intellectual habit of priceless value in practical life.

One is constantly asked, When should this scientific education be commenced? I should say, with the dawn of intelligence. As I have already said, a child seeks for information about matters of physical science as soon as it begins to talk. The first teaching it wants is an object-lesson of one sort or another; and, as soon as it is fit for systematic instruction of any kind, it is fit for a modicum of science.

People talk of the difficulty of teaching young children such matters, and in the same breath insist upon their learning their Catechism, which contains propositions far harder to comprehend than any thing in the educational course I have proposed. Again, I am incessantly told that we who advocate the introduction of science into schools make no allowance for the stupidity of the average boy or girl; but, in my belief, that stupidity, in nine cases out of ten, "*filii non nascitur*," and is developed by a long process of parental and pedagogic repression of the natural intellectual appetites accompanied by a persistent attempt to create artificial ones for food which is not only tasteless, but essentially indigestible.

Those who urge the difficulty of instructing young people in science are apt to forget another very important condition of success—important in all kinds of teaching, but most essential, I am disposed to think, when the scholars are very young. This condition is, that the teacher should himself really and practically know his subject. If he does, he will be able to speak of it in the easy language, and with the completeness of conviction, with which he talks of any ordinary every-day matter. If he does not, he will be afraid to wander beyond the limits of the technical phraseology which he has got up; and a dead dogmatism which oppresses or raises opposition, will take the place of the lively confidence, born of personal conviction, which cheers and encourages the eminently sympathetic mind of childhood.

I have already hinted that such scientific training as we seek for, may be given without making any

extravagant claim upon the time now devoted to education. We ask only for "a most favored nation" clause in our treaty with the schoolmaster; we demand no more than that science shall have as much time given to it as any other single subject—say four hours a week in each class of an ordinary school.

For the present, I think men of science would be well content with such an arrangement as this; but, speaking for myself, I do not pretend to believe that such an arrangement can be, or will be, permanent. In these times the educational tree seems to me to have its roots, in the air, its leaves and flowers in the ground; and I confess I should very much like to turn it upside down, so that its roots might be solidly imbedded among the facts of nature, and draw thence a sound nutriment for the foliage and fruit of literature and of art. No educational system can have a claim to permanence unless it recognizes the truth that education has two great ends to which every thing else must be subordinated. The one of these is to increase knowledge; the other is to develop the love of right and the hatred of wrong.

With wisdom and uprightness a nation can make its way worthily, and beauty will follow in the footsteps of the two, even if she be not specially invited; while there is, perhaps, no sight in the whole world more saddening and more revolting than is offered by men sunk in ignorance of every thing but what other men have written; seemingly devoid of moral belief or guidance, but with the sense of beauty so keen, and the power of expression so cultivated, that their sensual caterwauling may be almost mistaken for the music of the spheres.

At present, education is almost entirely devoted to the cultivation of the power of expression and of the sense of literary beauty. The matter of having any thing to say beyond a hash of other people's opinions, or of possessing any criterion of beauty, so that we may distinguish between the godlike and the devilish, is left aside as of no moment. I think I do not err in saying that if science were made the foundation of education, instead of being at most, stuck on as a cornice to the edifice, this state of things could not exist.

In advocating the introduction of physical science as a leading element in education, I by no means refer only to the higher schools. On the contrary, I believe that such a change is even more imperatively called for in those primary schools in which the children of the poor are expected to turn to the best account the little time they can devote to the acquisition of knowledge. A great step in this direction has already been made by the establishment of science-classes under the department of science and art—a measure which came into existence unnoticed, but which will, I believe, turn out to be of more importance to the welfare of the people than many political changes, over which the noise of battle has rent the air.

Under the regulations to which I refer, a schoolmaster can set up a class in one or more branches of science; his pupils will be examined, and the State will pay him, at a certain rate, for all who succeed in passing. I have acted as an examiner under this system from the beginning of its establishment, and this year I expect to have not fewer than a couple of thousand sets of answers to questions in Physiology, mainly from young people of the artisan class, who have been taught in the schools which are now scattered all over Great Britain and Ireland. Some of my colleagues, who have to deal with subjects such as Geometry, for which the present teaching power is better organized, I understand, are likely to have three or four times as many papers. So far as my own subjects are concerned, I can undertake to say that a great deal of the teaching, the results of which are before me in three examinations, is very sound and good, and I think it is in the power of the examiners, not only to keep up the present standard, but to cause an almost unlimited improvement.

Now what does this mean? It means that by holding out a very moderate inducement, the masters of primary schools in many parts of the country have been led to convert them into little foci of scientific instruction, and that they and their pupils have contrived to find or to make time enough to carry out this object with a very considerable degree of efficiency. That efficiency will, I doubt not, be very much increased as the system becomes known and perfected, even with the very limited leisure left to masters and teachers on week-days. And this leads me to ask, Why should scientific teaching be limited to week-days?

Ecclesiastically minded persons are in the habit of calling things they do not like by very hard names, and I should not wonder if they brand the proposition I am about to make as blasphemous and worse. But, not minding this, I venture to ask, Would there really be any thing wrong in using part of Sunday for the purpose of instructing those who have no other leisure, in a knowledge of the phenomena of nature, and of man's relation to nature?

I should like to see a scientific Sunday-school in every parish, not for the purpose of superseding

any existing means of teaching the people the things that are for their good, but side by side with them. I cannot but think there is room for all of us to work in helping to bridge over the great abyss of ignorance which lies at our feet.

And if any of the ecclesiastical persons to whom I have referred, object that they find it derogatory to the honor of the God whom they worship to awaken the minds of the young to the infinite wonder and majesty of the works which they proclaim His, and to teach them those laws which must need be His laws, and therefore, of all things needful for man to know, I can only recommend them to let blood and be put on low diet. There must be something very wrong going on in the instrument of logic if it turns out such conclusion from such premises.

THE CIRCULAR.

O. C., MONDAY, SEPTEMBER 13, 1869.

CONSANGUINEOUS STIRPICULTURE.

THE two great questions just now exciting the newspaper world, are—1. Whether Mrs. H. B. Stowe's story of Lord Byron's incest is true; and—2. Whether it was right to publish it, even if it is true. But there is a third question which may be raised, and which perhaps is more important than either of these; and that is, what is the exact nature and amount of the criminality involved in the acts charged. This question as to the intrinsic character of incest, is sure to come up some time in the course of the grand inquest that is sitting on marriage and its correlated moralities; and possibly the Byron controversy has been sprung upon us for the very purpose of bringing up that question. Mrs. Stowe and her party doubtless assume that the sexual connection of near relatives is intrinsically a horrible crime, and her opponents and critics seem generally to concede this point. Yet we cannot help thinking that, underneath the special pleading that is going on, there is some secret speculation as to the real merits of the case. The *New York World*, for instance, while criticising Mrs. Stowe in the usual way for "lifting shrouds," takes a little pains incidentally to characterize the alleged offense of Byron as "the crime of ABRAHAM and SARAH, of PTOLEMY and CLEOPATRA, of HENRY QUATRE and MARQUERITE," which we take to be an insinuation that the pairing of near relatives is not necessarily much of a crime after all. Without a thought of defending or excusing Lord Byron, we will take the occasion to present for consideration some things that might be and have been said on the general subject of consanguineous connections.

Scientific propagation has been pursued in breeding the lower animals, till it has reached great perfection in its theories and practical results. The laws that have been established in this pursuit may be summed up in these two: 1. Breeding "in and in," is the only method by which a special stock can be perfected and kept pure; but 2, such interbreeding, when long continued, produces delicacy of constitution, which must be corrected by occasional crosses of foreign blood. Darwin has a long chapter on the effects of close interbreeding and crosses, from which we quote the following specimens:

**** That evil directly follows from any degree of close interbreeding has been denied by many persons; but rarely by any practical breeder; and never, as far as I know, by one who has largely bred animals which propagate their kind quickly. Many physiologists attribute the evil exclusively to the combination and consequent increase of morbid tendencies common to both parents: that this is an active source of mischief there can be no doubt. It is unfortunately too notorious that men and various domestic animals endowed with a wretched constitution, and with a strong hereditary disposition to disease, if not actually ill, are fully capable of procreating their kind. Close interbreeding, on the other hand, induces sterility; and this indicates something quite distinct from the augmentation of morbid tendencies common to both parents. The evidence I have collected convinces me that it is a great law of nature, that all organic beings profit from an occasional cross with individuals not closely related to them in blood; and that, on the other hand, long-continued close interbreeding is injurious.

**** The evil consequences of long-continued close interbreeding are not so easily recognized as

the good effects from crossing, for the deterioration is gradual. Nevertheless it is the general opinion of those who have had most experience, especially with animals which propagate quickly, that evil does inevitably follow sooner or later; but at different rates with different animals. No doubt, a false belief may widely prevail like a superstition; yet it is difficult to suppose that so many acute and original observers have all been deceived at the expense of much cost and trouble. A male animal may sometimes be paired with his daughter, granddaughter, and so on, even for seven generations, without any manifest bad results; but the experiment has never been tried of matching brothers and sisters, which is considered the closest form of interbreeding, for an equal number of generations. There is good reason to believe that by keeping the members of the same family in distinct bodies, especially if exposed to somewhat different conditions of life, and by occasionally crossing these families, the evil results may be much diminished, or quite eliminated.

**** With cattle there can be no doubt that extremely close interbreeding may be long carried on, advantageously with respect to external characters, and with no manifestly apparent evil as far as constitution is concerned. The same remark is applicable to sheep. Whether these animals have gradually been rendered less susceptible than others to this evil, in order to permit them to live in herds, —a habit which leads the old and vigorous males to expel all intruders, and in consequence often to pair with their own daughters, I will not pretend to decide. The case of Bakewell's Longhorns, which were closely interbred for a long period, has often been quoted; yet Youatt says the breed "had acquired a delicacy of constitution inconsistent with common management," and "the propagation of the species was not always certain. But the Shorthorns offer the most striking case of close interbreeding; for instance, the famous bull Favorite (who was himself the offspring of a half-brother and sister from Foljambe) was matched with his own daughter, granddaughter, and great-granddaughter; so that the produce of this last union, or the great-great-granddaughter, had 15-16, or 93.75 per cent. of the blood of Favorite in her veins. This cow was matched with the bull Wellington, having 62.5 per cent. of Favorite blood in his veins, and produced Clarissa; Clarissa was matched with the bull Lancaster, having 68.75 of the same blood, and she yielded valuable offspring. Nevertheless Collings, who reared these animals, and was a strong advocate for close breeding, once crossed his stock with a Gallo-way, and the cows from this cross realized the highest prices. Bates's herd was esteemed the most celebrated in the world. For thirteen years he bred most closely "in and in;" but during the next seventeen years, though he had the most exalted notion of the value of his own stock, he thrice infused fresh blood into his herd: it is said that he did this, not to improve the form of his animals, but on account of their lessened fertility. Mr. Bates's own view, as given by a celebrated breeder, was, that "to breed in and in from a bad stock was ruin and devastation; yet that the practice may be safely followed within certain limits, when the parents so related are descended from first-rate animals." We thus see that there has been extremely close interbreeding with the Shorthorns; but Nathusius, after the most careful study of their pedigrees, says that he can find no instance of a breeder who has strictly followed this practice during his whole life. From this study and his own experience, he concludes that close interbreeding is necessary to ennoble the stock; but that in effecting this the greatest care is necessary, on account of the tendency to infertility and weakness.

**** With sheep there has often been long-continued interbreeding within the limits of the same flock; but whether the nearest relations have been matched so frequently as in the case of short-horn cattle, I do not know. The Messrs. Brown during fifty years have never infused fresh blood into their excellent flock of Leicesters. Since 1810 Mr. Barford has acted on the same principle with the Foscote flock. He asserts that half a century of experience has convinced him that when two nearly related animals are quite sound in constitution, in-and-in breeding does not induce degeneracy; but he adds that he "does not pride himself on breeding from the nearest affinities." In France the Naz flock has been bred for sixty years without the introduction of a single strange ram. Nevertheless, most great breeders of sheep have protested against close interbreeding prolonged for too great a length of time. The most celebrated of recent breeders, Jonas Webb, kept five separate families to work on, thus "retaining the requisite distance of relationship between the sexes."

In all this the two laws we first stated are apparent. But Darwin and all the writers on scientific propagation are careful to discriminate between man and the lower animals in this matter; as though we could not safely carry these discovered laws over from the one case to the other. Nevertheless there is a natural tendency (perverse or otherwise) observ-

able in public thought, and especially among scientific men, to yield a little to the pressure of analogy, and re-examine the old doctrines about consanguineous connections. This is done very carefully, of course, so as not to give shocks. The most that has been attempted has been to defend the marriages of cousins, with an occasional hint in extenuation of the pairing of uncles with nieces. A memorable controversy on this line was in progress some years ago among the savants of France, in the course of which Dr. E. Dally read before the Anthropological Society of Paris, a learned article entitled *An Inquiry into consanguineous marriages and pure races*, which article was afterwards published in the *Anthropological Review* of London (May, 1864), and was pronounced "excellent" by Mr. Darwin. To show how far the scrutiny of the old doctrines has proceeded, we extract from this article as follows:

Our colleague, M. Lagneau, whose scientific mind we all know how to appreciate, has quoted to us the example of the families P— and N—, "whose members, after having been united eight times among one another in the space of eighty-seven years, from 1694 to 1781, have still at the present day healthy descendants in this country."

Again, a distinguished pupil of the Paris hospitals, M. B—, has communicated to me an analogous case drawn from his own family. I here give a copy of his note on the subject:—

"It seems, from information which has been handed down to me by my family, relating to a period of about one hundred and fifty years (i. e., counting from the great-grandfather of my father), that five generations have married among their first cousins; the degree of relationship has never descended beyond the first cousins, excepting in two cases, where the daughters of first cousins have been married by their second cousins. These five generations have contracted a certain number of marriages which I am not able to particularize, and in which the mean number of children has been three or four. The total number of branches as direct as collaterals has been one hundred and twenty to one hundred and forty. There has been no idiot or deaf-mute met with. Two females only have died of consumption; one without any appreciable cause, the other from catching cold. One only has been seized with senile insanity at the age of sixty-eight, three years before her death. No predisposition, except the rheumatic predisposition common only to a few individuals. My family has included many physicians, who, although imbued with prejudices against consanguinity, have themselves judged of it by its results, and have only been able to encourage it. I may add that the number of "branches" is the more surprising since a great number of them have devoted themselves to a life of celibacy, or have made religious professions."

I have particularly copied this note of M. B—, and have given it literally. He did not wish his name published, and is going himself to marry his first cousin.

If consanguineous marriages presented any dangers whatever, it should certainly be in these cases of consanguineous unions, multiplied between two families. Well established facts of this description are worth a hundred contrary facts; for we must not forget that we only think of collecting observations in which there is something unusual; and accordingly the ailments of consanguineous children are very quickly quoted and reported, while consanguineous marriages, which have nothing extraordinary about them, are forgotten.

**** M. Périer has mentioned, according to M. Yvan, the beauty of the inhabitants of the island of Réunion, who descend from a few couples only, and yet have known how to preserve their purity of blood,—for most of the French colonies, where they are prosperous, offer the same character; in fact, we may remark even in France itself, isolated spots or isolated groups of individuals in the heart of a mixed population; there are very few travellers who have not noticed it, and this has never been with a view of establishing their degeneracy. Among this number are most of the little fishing villages on the coast of France, where the sailor population lives side by side with the agriculturists, without ever marrying among them. Such is Pauillac (Gironde), about which my friend, Doctor Ferrier, has written me a letter, from which I take this extract: "Pauillac contains one thousand seven hundred inhabitants; most of them are robust, vigorous and well-made sailors; the women are renowned for their beauty and the clearness of their complexion. There is, perhaps, no other place in France where consanguineous marriages are more frequent, and where the case of military exemption is more rare." Such, also, is Granville, where the maritime population, quite distinct and isolated, are a very fine set of men; Arromanches, a little village of less than one hundred fishermen, who have very little sympathy for "earth-workers;" such is, above

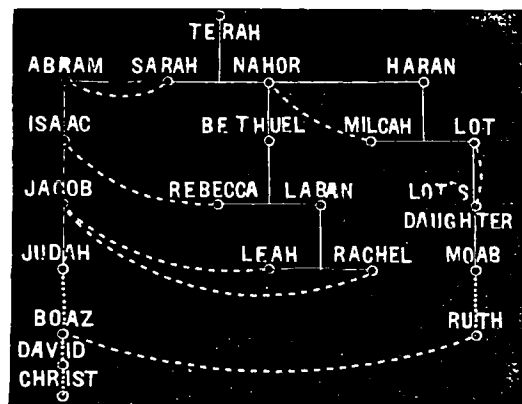
near Boulogne, a village containing some of its inhabitants, who are all allied among other in the closest relationship, and who marry among those whom they call "the herds" (bergers.) Batz, in Brittany, is a commune containing three thousand souls, about whom Voisin furnishes the following information: The nucleus of the population is composed of line families. For a very long time the inhabitants of the town have married amongst one another, except in very rare instances. In that part of the country it is a title of nobility to belong to the town of Batz, and it is rare to hear of unions with the people of Croisic or Pouliguen. The inhabitants of Batz are either workers in salt-pits or fens, and pass their lives in the open air, near the sea, in the salt-marshes; their chief labor is the preparation of the salt; both men and women are extremely robust, of a good height, and perfect health. Their hygienic condition is admirable, and misery is unknown in the country. I find, besides, from my notes, that there are very few of the inhabitants who are relatives beyond the sixth degree; for the most part their relationship is of the third or fifth degree: the children are numerous, and average from two to eight for each marriage.

M. Gubler in a recent journey, has been able to establish the extraordinary beauty of the inhabitants of Gaust, in the valley of Assau, in the midst of the Pyrenees. The custom of marrying relations is so inveterate among them that, before marrying an inhabitant of another commune, the young men of Gaust ask permission of the chief men of the place; and yet this little place contains barely two hundred inhabitants. Analogous facts are cited by M. Prier concerning the village of Uchizi, not far from Macon, and of the canton of Saint-Martin d'Auxigny, near Bourges. Our friend, M. Maximin Legrand has mentioned the same facts about the town of Ecuelles, near Verdun-sur-Saone: and I think that I could quote a hundred, perhaps a thousand places in France which fulfill the same conditions.

In the course of his article, Dr. Dally discusses the pure races, such as the European aristocracies, and the Jews; and concludes that in these examples, vital power and beauty have been the result of close interbreeding.

In conclusion, we offer, as our own contribution to the investigation of consanguineous stirpiculture, the following exhibition of the interbreeding, out of which the Jewish race issued.

HEBREW STIRPICULTURE.



The curved broken lines indicate marriages. They show that Abram married his sister; (though she was only half-sister: vide Genesis 20: 12); that Nahor married his niece; that Isaac married the daughter of his cousin Bethuel, who also was son of Milcah, another cousin; that Lot, the progenitor of Ruth, who was a progenitress of David and Christ, propagated by his own daughter; that Jacob married two of his first cousins on his mother's side, who were also the daughters of his third cousin on his father's side; that Bethuel was grandson of Terah by his father, and great-grandson by his mother; that Rebecca and Laban, the children of Bethuel, could thus trace their lineage to Terah by two lines, i. e., through Nahor and Haran; that Isaac could trace his lineage to Terah by two other lines, i. e., through Abraham and Sarah; consequently that Jacob, the child of Isaac and Rebecca, could trace his lineage to Terah through four lines, i. e., through all four of Terah's children.

These probably are not half the connections that actually existed between the first generations of the Jewish stock. We are not informed where Haran, Bethuel, Lot and Laban got their wives; but we may

presume, from the fashion of the family, that they found them, or some of them, within the circle of their own kindred.

Thus it is evident that the Jewish stock was at first established by a very complicated system of breeding "in and in." Afterward Moses made laws against marriages of relatives; but it should be observed also that the rite of circumcision and the whole moral force of the Mosaic economy, was opposed to foreign marriages. The policy of the Jewish institutions as seen in the times of Ezra and Nehemiah, was as severe against marriage with the heathen as against incest. The truth therefore is, that the original practice of breeding "in and in," though subsequently prohibited in reference to individual relationships, was continued and enforced on the national scale. The Jews, as a people, have always been breeding "in and in." Marriage between very close relatives was necessary at the beginning, and not necessary afterward; and so it is, and must be in every development of a new stock. As the numbers increase, close relationships can be avoided, and yet the blood can be kept pure.

We conclude therefore, that breeding "in and in," was the first and general law of Jewish stirpiculture.

At the same time it is evident that there was an exceptional policy at work, by which foreign blood was introduced from time to time into the Jewish stock. This policy is seen in the cases of Rahab, Ruth, Bathsheba, &c., and doubtless existed to a large extent in less notable cases that are not seen. Infusion of the best Gentile blood has always been an important incidental of Jewish stirpiculture.

We have, then, as the result of this historical view, two principles contrasted and yet co-operative—"breeding in and in" the first law, and foreign infusion the second. These two laws—the first controlling, the second exceptional—have produced the most perfect race. And these are precisely the two laws that Darwin and the cattle-breeders are promulgating. Science and Scripture for once teach the same thing.

J. H. N.

COMMUNITY JOURNAL.

ONEIDA.

—J. H. N. left O. C. for W. C., to superintend the printing of his book on American Socialisms.

—Telegraph poles have been reared through our orchards, along the line of the N. Y. O. & M. Railroad.

—The silk department has sent a sample case of colored machine-twist to the Fair of the American Institute now holding in New York city.

—J. J. S. is making a topographical survey of our grounds, in the immediate vicinity of the dwelling-house and railroad depot, to facilitate the planning of future improvements.

—A Mormon called on us Wednesday afternoon and staid over night; we invited him to our meeting, where, in answer to our many questions he gave us quite an interesting insight into Mormon life. We were interested in the man's earnest faith in God, and his loyalty to Brigham Young. If he is a fair specimen of the followers of Joe Smith, there is no prospect of Mormonism being wiped out in our day. Among other things, he told us that hot drinks, tobacco and pork were falling into disuse among them; that they were paying much attention to education and manufactures; their women attend to business in the stores and take charge of the telegraph offices; they are more free and happy than women in the world. The Mormons take care that there shall be no one in need among them, and though they now each own separate property, they are fast approaching a state of Communism; for they believe that they cannot have Community of property in heaven unless they have it here upon earth. Brigham Young has distributed abundance of mulberry trees, and they are going extensively into the growth and manufacture of silk. According to this man's statement, the Mormons are healthy, prosperous and happy. One of the principal objects of their lives seems to be "to rebuild Zion, in Jackson County, Missouri."

WILLOW-PLACE.

—A new road has been projected, and is in process of construction from the rear of the factory to the turnpike. It is to cross the race-way, curve around the hill, and meet the highway west of the tenement-houses.

—It is noticed that by some concatenation of circumstances, whenever we undertake to have ice-cream, the weather changes suddenly from hot to cold. The other day it had been hot and sultry, and the kitchen purveyors thought they had hit it this time sure; but before the freezer had fairly done its work on the cream, a black cloud ominously arose in the west, and a chilling blast, accompanied with rain, suddenly dissipated every thing akin to dog-days or sun-strokes; and when supper came on the table, windows and doors were closed, and fires were thought of, as something pleasant to contemplate over a small mound of ice-cream.

Evening Meeting.—W. H. W. remarked that in fulfilling the exhortation to put on Christ, it seemed indispensable that there should be a true conception of his character and attributes. If we apprehend him only in a partial way, we shall fail to put him on in his fullness, or to realize a whole salvation. Some individuals and sects, look only at the benevolent, peaceful characteristics of Christ, almost entirely ignoring the lion-like side of his character, which faces evil, dealing denunciation and fiery judgment against evil.

Notwithstanding Christ's mission was heralded as one of "peace and good will to men," he seemed, in a measure, to reverse that afterwards, declaring that he came "not to send peace, but rather a sword." Peace and good will followed only when the sword of righteousness had gone before and prepared the way. First pure, and then peaceable, is the order in which Christ conducted his mission. These two sides of his character are very prominently portrayed in the New Testament. To the unbelieving Jews he dealt the most scathing denunciation and rebuke, and on one memorable occasion had recourse to a whip of small cords; while to his disciples and those who received him, he manifested more than motherly tenderness and love. Whoever would put on Christ, must receive him in his twofold character, as king of righteousness, as well as king of peace.

WALLINGFORD.

—Messrs. Newhouse and Hawley, are enjoying a visit at the sea-shore, where they have a small house and good bathing.

—It is proposed that the family pass a written examination in Algebra, Geometry, Arithmetic, Physics and Grammar, sometime during the present month; the questions to be prepared by five of our members.

Evening Meeting.—G. made some remarks upon the importance of having a sanctified spirit in eating: he said, "We ought at all times to eat our meals with gladness and singleness of heart. Eating for the sake merely of sustaining the body, is to eat on a very low plane; the principal object in eating should be to meet God and have fellowship with him. Then if in preparing food, the cooks bear in mind that they are not preparing it for the mere gratification of appetite, but take into account that it is also a sacrifice, it will have a good effect upon the food."

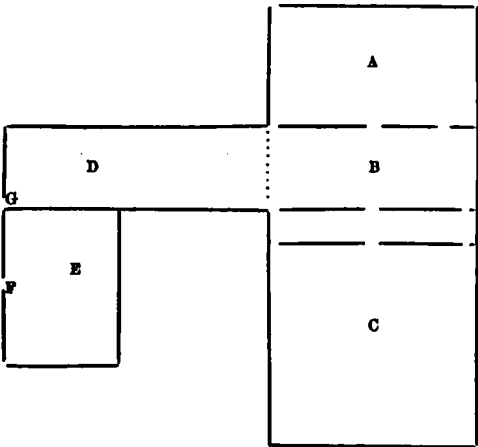
The difference in that state of spirit in which food may be eaten, is illustrated by Eve and Christ. The devil tempted Eve to eat for momentary gratification, without any sentiment of worshiping God in so doing. Now look at Christ at the time of his last supper, and note the difference. He made it expressly, an ordinance of life and unity. He poured out his spirit upon those who ate with him, and made eating an ordinance of fellowship that brought down the spirit of God. In the case of Eve it led to sin and death. In the case of Christ it led to the resurrection. The disciples ate in the same spirit on the day of Pentecost, when they brake bread from house to house and ate their meat with gladness and singleness of heart.

COMMUNITY CULINARY DEPARTMENT.

THERE seems to be a near prospect that the old building containing all the appliances by means of which two hundred of our people are supplied with their daily food, will be removed. And as the public mind is waking up to the many advantages that grow out of the principle of co-operation in such matters, it appears appropriate that we should give a somewhat minute description of our kitchen, bakery and dining-room, as well for our own benefit, as also that we should present the result of twenty years of the actual working of the principle of co-operation in these departments, for the instruction of the public. We are far from claiming anything like perfection in these arrangements, nor do we hold them up as models. They are simply growths from small beginnings, and present but little of the perfection that might have been expected had they been planned on the basis of our present experience, and with unlimited means. But we can truly say that they have served and are serving the purpose of supplying the alimentary wants of the Community far better and cheaper than the same number of individuals can be provided for in ordinary households.

The main part of the "Old Mansion House" was built in the summer of 1848, and is seventy-two feet long, by thirty-four feet wide. It is situated in the side of a bank about twelve feet in height, and has a southern exposure.

The kitchen and dining-room are confined to the lower story, the northern-most room of which is built in the bank, and on one side is lighted by small windows that look out on the higher level. The reader can form some idea of the shape of the building by a glance at the following diagram.



It is only necessary to add in this description that doors open at F and G, into a wing not represented in the diagram, that extends westward seventy-six feet by twenty-six feet wide. This wing contains a small bed-room that has been used by the baker, a temporary store-room for flour, bread, &c., and a coal and wood-shed.

The north room A is thirty-two feet, two inches, by eighteen feet, five and a half inches. At the north-west corner is a door opening into the cellar of the brick mansion. On the north side of the room stands a large cupboard for tin dishes, and an old arch extends back into the bank, eight feet by ten. In this recess there are two refrigerators, and on each side are shelves for holding victuals. Next to this recess is a table for bread-cutting, with a drawer

beneath it, containing three large knives adapted to the work of cutting large loaves. Adjoining this are the lunch and pie cupboards, with their numerous shelves, accessible to hungry members of the family at all hours of the day or night. On the east side of the room is a range of shelves for large tin vessels, a box containing knives for trimming vegetables, a place for salaratus, cream of tartar, salt, and other articles too numerous to mention. In the south-east corner is a stout table, on which fruit-cans are opened, and where other heavy work of various kinds is done. On the south side of the room is a reserve cooking-stove, used when there is more work to do than can be accomplished on the large range; a large iron boiler, heated by steam; a small table; a Blodgett's patent oven, and a sink extending through a square hole into the room adjoining. On the west side, is a "squaw cupboard," where we deposit broken victuals that are sold at a cheap rate to our Indian neighbors. Above this cupboard, which is a low one, are hooks and nails where hangs the tin furniture that belongs to the steam range; also there is a small cupboard used as a sort of clothes-press for holding kitchen aprons. Two tables on castors stand in the middle of the room, on which may be done any kind of work pertaining to kitchen business.

The room B is thirteen feet, eight inches, by thirty-three feet, five inches, and connects with the room A above described, by means of three breaks or open door-ways in the partition. On the north side of this room commencing at the north-west corner is the before mentioned sink, supplied by faucets with hot and cold water. Beneath this sink is a coal-box on wheels. An upright, copper boiler holding ninety gallons of water is heated by an arrangement in the back of a Shepard's Patent Range which stands next to it, measuring seven feet three inches by three feet three inches. East of the middle of the three passages before mentioned, is a steam range, consisting of a frame supporting three oblong iron vessels, each twenty-one inches long by fourteen inches wide and twelve inches deep. In two of these the cooking is done by admitting steam directly into the vessels and putting a cover on them. The other vessel is adapted to the work of boiling water by steam.

The east side of the room is lighted by three windows; a wide bench stands beneath the windows, under which are kept two small hand-cars or carts used in transporting dishes. Two tables on castors are kept in the room, used chiefly as places on which to deposit the various dishes of food just previous to the time of carrying them to the dining-room.

Between the kitchen, B, and the dining-room, C, are two partitions about five and a half feet apart; and between these partitions, beginning at the east end, is an entrance hall, a china closet, a space for the furnace that heats the rooms above, a broad passage, another closet containing silver for the dining-room, as well as sugar, salt, &c., a flight of stairs to the story above, and at the west end, another passage. By the side of the above mentioned flight of stairs and facing the kitchen, is a series of cupboards containing dishes, assorted according to their kinds, the names of which are marked upon the doors.

C is the dining-room, thirty-three feet, eleven inches by thirty-one feet, and is capable of seating one hundred and six persons. At the north end of it, between the passages to the kitchen, are stationary side-tables for the accommodation of the waiters. These tables have cupboards beneath them, and shelves above within easy reach.

D is the sink-room, fourteen feet by forty-three feet eight inches, the eastern part being devoted to the washing of dishes, and the western part to conveniences for washing faces and hands.

The sink for washing dishes is a platform little higher than a common table, whereon the dishes, brought in a cart from the dining-room, are placed. Two large sheet-iron pans are sunk in each end of this platform, with hot and cold water faucets over them. A half circle is cut into each end of the sink wherein the dish-washers sit or stand as they choose, with the dishes within easy reach. The dishes having been washed are deposited on the west side of the sink, where a man stands ready to dispose of them in little wooden hand-racks. These racks, filled with dishes, are suspended over a box of hot water which stands a little to the west of the sink. By drawing a cord, the dishes are let down into the hot water, from whence the man easily raises them again, by applying his foot to a treadle. These small racks containing the dishes are then placed on two larger ones to drain and dry, from whence they are taken in a cart to the dining-room and set on the tables ready for the next meal. West of these fixtures is another platform and sink, where pots, kettles and tin ware are washed. Near it on the north side is a box containing soft soap, into which is introduced a steam-pipe, so that the soap is manufactured in the same place where it is stored. West of this box is an iron sink with cold and hot water faucets for hand washing. Ice water can be obtained at all hours from a faucet fitted in a barrel packed in saw-dust that is placed on a raised platform at the west end of this iron sink; and on the west side of the room are five marble wash-dishes with faucets to match.

Near the center of the room stands a vegetable washer; a contrivance invented by one of the many kitchen men who have officiated at different times. It consists of a box capable of holding water, and mounted on legs and castors. A cylinder, with a crank, is suspended over and partly in the water. This cylinder being made of slats an inch apart, the water has free access to the inside. Vegetables are placed in the cylinder, and after having a sufficient turning to cleanse them a section is removed, and its contents thrown into a hopper through which they fall into a vessel placed to receive them.

The mop-wringer, another contrivance gotten up by the same inventive genius, usually stands beside this vegetable-washer. It consists of a box divided into two compartments, which when in use is filled with the hottest of water. The opening of the cover causes a pair of rubber rollers to spread apart so that the mop, having been dipped in the hot water, can be placed between them. The closing of the cover brings the rollers tight together, and two or three turns of a crank wring the mop in an instant. The whole can be easily wheeled to any room on that floor of the house. Aside from

its great convenience, there is a manifest advantage in using very hot water, which cannot be secured when the wringing is done by hand.

While on the subject of inventions, we may mention a contrivance for cleaning fish, that has been lately introduced by one of the kitchen men. It is designed to cleanse the coagulated blood that lies next the back-bone of the fish, and which all who have had experience, know requires so much care to remove. The invention consists of a circular brush made to revolve by means of the gearing of an old paring-machine, under a stream of water from a faucet. This contrivance has greatly lightened the labor of our women in cleaning fish.

It is perhaps unnecessary to describe in detail the appurtenances of the bakery, E, inasmuch as they do not probably differ essentially from other establishments of the kind. The oven, is Blodgett's patent, and consists of a box six feet high by five feet wide and three feet two inches deep. It is made of galvanized sheet-iron, and contains five iron shelves. This oven is heated by a small wood-stove. It is effective and economical.

A man mixes the dough and bakes the bread, though the moulding and putting into pans is done by the kitchen company of women. He also bakes the pies and cakes that are prepared by the kitchen corps. His business occupies him on an average seven hours per day.

The preparing of the meals is mostly done by a group of eight women and two men. One of these women holds the office of general superintendent. Her function is to make such suggestions as she may deem necessary, and to volunteer a helping hand wherever it may be most needed.

The planning of the meals, devolves on two of the women who are called kitchen-mothers. They write down a bill of fare for the three meals of each day, on a slate that is hung in a conspicuous place. The other five women assist in carrying out the programme, taking various responsibilities that are assigned to them by the mothers. The business of attending to fires, carrying large pails of water and milk, working the potato-washer and mop-wringer, paring apples and potatoes by machines, and doing many other things that properly belong to the stonger sex, is done by the kitchen men. It is the duty of one of these men to rise at half-past four in the morning, and attend to the numerous duties pertaining to the breakfast; and he remains subject to calls for help in the heavy work until the ringing of the one o'clock bell, when his responsibilities for the day are at an end. Another kitchen man commences work at seven in the morning, and besides the general kitchen work, takes certain regular duties pertaining to the dinners and suppers. The third man usually rises at five in the morning, and works at distributing bread, butter, sauce, water and milk on the tables preparatory to the breakfast, which is ready at six o'clock during the summer months, and at seven in winter.

The suppers, which require less labor than the other meals, are prepared by one of the men and two women not included in the kitchen corps. There are usually three or more hours in the afternoon when nearly all of the kitchen company is at liberty. The labor done

in preparing the meals amounts to ninety-seven hours per day, including the time of the steward, who is responsible for keeping up the stock of butter, sugar, malt coffee, flour, syrup, &c., besides providing other necessities for the table.

The waiters constitute a department separate from the kitchen group. The number of waiters required at breakfast and supper is four, two for the first and two for the second table. At dinner, five attend at the first and three at the second table. The time spent in waiting on tables amounts to about ten hours. Another group gives its attention to dining-room work, which consists in removing dishes, knives, forks and spoons to the place of washing, and returning them to their places on the table or in the cupboards. Twenty-four hours per day is spent at this work.

The dish-washing, with all the other work of a kitchen not before mentioned, is done by five women, two men and two small children, and occupies altogether twenty-eight hours.

Another group of two or three, give special attention to preparing meals for visitors. The amount of work they do, of course varies with the number of visitors, and is not here taken account of.

Thus it will be seen that the time devoted to supplying the alimentary wants of two hundred and two persons, is one hundred and sixty-six hours per day. This would make the time spent in preparing food for, and serving it, to each individual, but a small fraction more than forty-nine minutes per day, or sixteen and one-third minutes per meal. This economy of time and labor is not the result that is especially sought. The prevailing spirit and purpose of the several groups, is to do their work in the most efficient and acceptable manner; and the saving of labor is simply an outgrowth of the principle of co-operation.

The principle of frequent change, that Fourier made so much account of, is taken advantage of to a considerable extent, though it is by no means made so prominent as he recommended. Three weeks is the time regularly allotted to each one who undertakes to work in the kitchen; though this rule is frequently varied by the preference of some persons to stay a longer or shorter time. Seven hours a day is as long as any person works in any of the departments mentioned.

In reading the above estimate of labor it should be understood that the hours occupied by those engaged, does not prevent many of them from following other occupations, so that no time remains to be credited to the kitchen department beyond that in which the parties are actually working there.

Sixty-five of the family provided for are men who would under ordinary circumstances have been heads of families, being thirty years of age and over. To care for these in separate families, would engage the time and attention of sixty-five women—say sixty-five women eight hours a day, five hundred and twenty hours—leaving a balance in favor of co-operation of at least three hundred hours per day, after allowing fifty-four hours per day for time devoted to house-cleaning, mending, and all the other work connected with family care.

MORNING MUSINGS.

BY A COMMUNITY WOMAN.

TWENTY years ago this summer I joined this Community home at Oneida. It was "Home sweet home" then, in the truest interior sense; yet it must be confessed that at that time, and for some years after, the externals of our home were somewhat rude and bare. It was "Love in a cottage" acted to the life; or rather it was like two hundred or more sturdy volunteers setting up their military camp in the wilderness, contenting themselves with rough soldier's fare till they could conquer a space for Christian Communism.

Those years of privation have rolled swiftly and lightly by. Enthusiasm for the cause lightened all our labor. Unity prevailed over selfishness. In a thousand ways we proved that a life of faith is full of poetry and joy, even though the dinner be of herbs, the clothes threadbare or unfashionable, and the house crowded to overflowing. Our mode of life had all the elements of a summer's day picnic—cheerful hearts and ready hands, keen appetites, and an inexhaustible fund of contrivance to "make things do." Our picnic however had a very earnest purpose in it, and proved no summer's day pastime.

But to-day how is it with us? As I sit here musing on the contrast between the present and past in respect to external comforts and luxuries, the change seems almost incredible. Have we to-day any *less* than the ordinary comforts of life? Nay, have we not a hundred-fold? Let me think, to begin with the most necessary things. Three times a day our table is spread with an abundance of the best of fare. A scientific baker contributes his daily offering of twenty or thirty loaves of superior bread. Our own gardeners furnish us with a constant succession of vegetables and fruit. A steward and stewardess make it their business to provide our table with the necessary variety from abroad, and also take care that our cellars and store-rooms are constantly replenished. We may say, each meal is a labor of love; and our cooks study their calling as one of the fine arts. Polite and zealous waiters attend at every table, and on all sides are friendly and intelligent companions. Added to all this is the "gladness and singleness of heart" which can make the poorest fare a royal feast.

How about clothing? Our own store brings within a stone's throw the material to clothe the family; and in the same building is our tailor's shop and shoe-shop. The dress of our women and children is so simple, that we have no occasion for professed mantua-makers, but I notice that each year the material of our garments improves in texture and finish; and I see the time is not distant when all that is best and fittest to be worn, both as to material and style, will clothe "the outer man."

Twenty years ago three or four plain wooden houses were filled and running over with our rapidly increasing family. We dwelt in tents, and rejoiced much in the shadow of the one grand old tree that grew on our lawn. To-day, near that old tree, and on the site of our former children's house stands a spacious brick mansion, fitted up with many modern improvements, and adapted to the requirements of a large family. Here, all that renders home com-

fortable goes on like clock-work. We have a library and a librarian, the best journals of the day, and a newspaper reporter. We have a large and attractive hall for meetings, lectures and concerts. Our sitting-rooms are spacious and pleasant, and the whole house is lighted and warmed in the most comfortable manner. Within a short distance from where I sit, is our nursery. Our children are not left with mercenary hirelings, but are fed, clothed, and guarded night and day, by loving and careful attendants. They romp and play on our lawn, fly their kites, swim in the creek, or do their childish chores in the dining-room, always under the same wise guardianship. Not far off is their new school-house, neatly fitted up with modern improvements.

A few steps west of our house stands our Tontine. There we have a printing-office, with its corps of editors and type-setters. They furnish us weekly with an invaluable paper. On the same floor we have a dentist's office and a skillful dentist. On a lower floor is our silk-spinning room. Here all can find attractive employment as long as they choose. On the same story is our room for canning fruit; and in one adjoining, conveniences for distributing clothes, as they go or come from the laundry. In the basement is a complete dyeing establishment belonging to our silk-works. Here, too, are accommodations for hot and cold baths.

What has become of our Washing, which once roused the family with the dawn, and lasted till noon—a regular battle with dirt, soap and wash-board? A laundry, far enough off to relieve us of all disagreeable contact, and replete with labor-saving conveniences, has almost blotted washing-day from our memory. An express-wagon that runs regularly two or three times a day between our different business stations, carries and fetches the clothes to and from the laundry. Individual care for that large department of family comfort is thus reduced to almost nothing. The same is true of the dairy. We know that our table is abundantly supplied with milk, cream, butter and cheese. And we see seventy or eighty sleek, wholesome-looking cows going to and from their pasture, or forming picturesque groups in the meadow; and that is all most of us know about it.

But our list of external blessings does not end with the first necessities of life. What have we more? or rather what have we not? We have a machine-shop, foundry, tin-shop, harness-shop and carpenters' shop. We have first-class machinists, blacksmiths, carpenters, glaziers, farmers, architects, surgeons, chemists, lawyers and ministers. We have a photographer, an engineer, a taxidermist, an entomologist, a microscopist and an engraver. To serve all departments, and do our errands of business or pleasure, we have horses, wagons and teamsters at will.

We abound in flowers—a thousand-fold of rare and fragrant beauties decorate our Community grounds. Our gardens and shrubberies are the work of our own florists and landscape gardeners. Their beauty and fragrance is a pleasure to all, and the labor bestowed on them is only a healthy out-door employment, not drudgery.

Beyond and above all these things, are the

multiplied and increasing opportunities for education we enjoy. Books, apparatus and teachers, are within the reach of all. The germ of a college and seminary is already growing; and growing with equal pace are the highest motives and stimulants to mental improvement.

To what do we owe all this? It is manifestly not the work of cunningly devised constitutions or plans of co-operation. We have had none of them in all our twenty years experience. It is simply the hundred-fold promised by Christ.

THE ADVANCE, which Dr. Bushnell pronounces "one of the ablest, best, and most outspoken religious papers now published," celebrates the event of entering upon its third volume by several marked improvements. It appears in a new dress of type, begins the regular publication of Rev. Henry Ward Beecher's Sermons, and adds several new names to its list of contributors, among them that of Hon. Henry Wilson of Massachusetts, who in the current number discusses the problem of Chinese immigration from the standpoint of Christian statesmanship.

THE ADVANCE is published at \$2.50 per year, by THE ADVANCE COMPANY, 25 Lombard Block, Chicago, Ill.

ITEMS.

PRINCE ARTHUR is traveling in New Brunswick.

SENATOR FESSENDEN died at Portland, Maine, on the 8th inst.

THE thirty-eighth Annual Fair of the American Institute was opened in New York on the evening of the 8th inst.

A NEW line of steamers is proposed between Stetten and New York. Stetten is the second port in Prussia.

TWENTY-ONE vessels are now being loaded in different parts of the States with petroleum for Europe.

A TERRIFIC storm has visited the New England coast, the damage by which is estimated at millions of dollars.

SECRETARY RAWLINS died at Washington on the 6th inst. The President has appointed General Sherman Secretary of War pro tem.

NAPOLEON III is considered dangerously ill. The appointment of Prince Napoleon to the head of the French administration is discussed.

THE celebration at Prague of the 500th anniversary of the martyrdom of Huss, developed strong political feelings of an Anti-German tendency.

THE American Steamship Hornet has been searched at Halifax on complaint of the Spanish Consul, that she had concealed on board, arms for the Cuban insurgents. The search failed to discover anything contraband.

ANOTHER new telegraph cable has been contracted for, to connect Ceylon with Penang. This is the first section of the "India, Australia, and Submarine Telegraph" to connect the telegraph system of British India in Ceylon with the Strait's Settlements, Australia and China.

A DISASTER occurred on the 6th inst. at the Avondale colliery at Plymouth, Penn. A fire broke out in the Stuben shaft, the only entrance to the mine, and destroyed the hoisting apparatus. There were one hundred and eight men in the mine, all of whom perished from suffocation.

THE United States has offered to mediate between Spain and Cuba. The propositions made by our Government to Spain, require the recognition of Cuban independence as a basis of settlement, Cuba to indemnify Spain for public property to an amount not exceeding \$100,000,000, slavery to be abolished and hostilities to cease. The United States to guarantee the fulfillment of the agreement to both parties. A counter proposition was returned from Spain, demanding that the Cubans lay down their arms. It is thought that final action will be postponed until a king is elected in Spain.

Announcements:

THE ONEIDA COMMUNITY

Is an association living in Lenox, Madison Co., N. Y., four miles from Oneida Depot. Number of members, 202. Land, 664 acres. Business, Horticulture, Manufactures, and Printing the CIRCULAR. Theology, Perfectionism. Sociology, Bible Communism.

WILLOW-PLACE COMMUNITY.

Branch of O. C., on a detached portion of the domain, about one and one-fourth miles from O. C. Number of members, 35. Business, Manufactures.

WALLINGFORD COMMUNITY.

Branch of O. C., at Wallingford, Conn., one mile west of the depot. Number of members, 40. Land, 228 acres. Business, Horticulture, Publishing, and Job Printing.

SPECIAL NOTICE.

The O. C. and branches are not "Free Lovers," in the popular sense of the term. They call their social system COMPLEX MARRIAGE, and hold to freedom of love only within their own families, subject to free criticism and the rule of Male Continence.

ADMISSIONS.

Members are admitted to the O. C. and branches after sufficient acquaintance; but not on mere application or profession of sympathy. Whoever wishes to join must first secure confidence by deeds. The present accommodations of the Communities are crowded, and large accessions will be impossible till new Communities are formed.

STEEL TRAPS.

Night sizes and descriptions, suitable for catching House Rats, Muskrats, Mink, Fox, Otter, Beaver, the Black and Grizzly Bear, are made by the Oneida Community, Oneida, N. Y., of whom they may be purchased. Descriptive-list and price-list sent on application.

WILLOW-PLACE FOUNDRY.

All kinds of agricultural, machine, and light castings on hand or made to order.

P. O. address, Oneida Community, Oneida, N. Y.

MACHINE TWIST AND SEWING SILK.

Machine Twist, of our own manufacture (Willow-Place Works); also, various brands and descriptions of Sewing Silk, in wholesale quantities, for sale by the Oneida Community, Oneida, N. Y.

MOUNT TOM PRINTING-OFFICE

(WALLINGFORD COMMUNITY), WALLINGFORD, CONN.

Being refitted with new type and press, our establishment is now ready to receive orders for Cards, Circulars, Price-lists, Pamphlets, and the lighter kinds of Job Printing. Particular attention paid to Bronze work and Color Printing for Labels. Orders from abroad should be addressed to

WALLINGFORD COMMUNITY,
Wallingford, Conn.

PICTURES.

The following Photographic Views of the Oneida Community can be furnished on application: The Community Buildings, Buildings and Grounds, Rustic Summer-house and Group, and Bag-bee on the Lawn. Size of pictures, 8 inches by 10. Price, 75 cents. Various Stereoscopic Views of the Buildings and Groups and Grounds can be furnished at 40 cents each. Views, *cart de visite* size, 25 cents each. Any of the above will be sent by mail, post paid, on receipt of the price named. Address, Oneida Community, Oneida, N. Y.

PUBLICATIONS.

HAND-BOOK OF THE ONEIDA COMMUNITY; with a Sketch of its Founder, and an Outline of its Constitution and Doctrines. 72 pp. octavo. Price, 35 cents for single copy; \$3.50 per dozen.

SALVATION FROM SIN, THE END OF CHRISTIAN FAITH; an octavo pamphlet of 48 pages; by J. H. Noyes. Price, 25 cents per single copy, or \$2.00 per dozen.

THE TRAPPER'S GUIDE; a Manual of Instructions for Capturing Fur-bearing Animals; by S. Newhouse. Second edition; with new Narratives and Illustrations. 280 pp. 8vo. Price, bound in cloth, \$1.50.

MALE CONTINENCE; or Self-Control in Sexual Intercourse. A Letter of Inquiry answered by J. H. Noyes. Price, 50 cents per doz.

BACK VOLUMES OF THE "CIRCULAR," unbound. Price, \$1.50 per volume, or sent (post paid) by mail at \$1.75.

The above works are for sale at this office.

MESSES. TRAUBNER & COMPANY, Book-sellers, Paternoster Row London, have our HAND-BOOK OF THE ONEIDA COMMUNITY, and the TRAPPER'S GUIDE for sale. They will receive subscriptions for the CIRCULAR and orders for our publications.